

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mozart Street Mercury Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #3
Mozart Street Mercury Spill
Chicago, IL
Latitude: 41.9023033 Longitude: -87.6869188

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Date: 12/24/2014
Reporting Period: 12/19/14 to 12/24/2014

1. Introduction

1.1 Background

Site Number:	C55F	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	12/15/2014	Start Date:	12/15/2015
Demob Date:		Completion Date:	

CERCLIS ID:

RCRIS ID:

ERNS No.:

State Notification: Complete

FPN#:

Reimbursable Account #:

1.1.1 Incident Category

CERCLA Emergency Response. Mercury spill clean-up at one church and three residences.

1.1.2 Site Description

From December 12, 2014 to December 24, 2014 EPA and START mobilized to a total of four City of Chicago locations to investigate suspected mercury contamination at the request of the Chicago Department of Public Health.

1.1.2.1 Location

Two of the sites are located south of the Logan Square neighborhood (N Mozart St and W North Ave), one site is located in the Wicker Park neighborhood (N Artesian Ave), and one site is located in the North Lawndale neighborhood (S Central Park Ave) in Chicago, Illinois. In general, each area is a mix of multi-story single-to multi-family homes along with apartment buildings.

1.1.2.2 Description of Threat

Unknown volume of elemental mercury. According to the Agency for Toxic Substances and Disease Registry (ATSDR), the nervous system is sensitive to metallic mercury. Exposure to very high levels of metallic mercury vapor can cause brain, kidney, and lung damage and may seriously harm a developing fetus. Exposure to mercury vapor concentrations high enough to produce such serious effects might also cause coughing, chest pains, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Exposure to lower levels of airborne mercury for prolonged periods of time would produce more subtle effects, such as irritability, sleep disturbances, excessive shyness, tremors, coordination problems, changes in vision or hearing, and memory problems

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Refer to Polrep 1 and Polrep 2 for activities prior to December 19, 2014. USEPA and START conducted final assessments at S Central Park Ave on December 23 and 24, 2014. USEPA and START conducted an additional assessment at N Artesian Ave on December 24, 2014. The final and additional assessment results are summarized in the Tables below. USEPA and START did not observe the presence of beads of mercury at the S Central Park Ave location but did observe mercury beads at the N Artesian Ave location.

START Final Mercury Vapor Screening Results Residence on December 23, 2014 S Central Park Ave., Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temperature (°F)
Initial Entry	480	411	70
Living Room	342	471	
Downstairs Hallway	491	502	
Downstairs Closet	351	377	
Utility Room	421	413	
Dining Area	471	511	
Kitchen	444	521	
Stairwell	429	531	
1 st Bedroom	502	341	
2 nd Bedroom	493	622	
3 rd Bedroom	300	542	
Upstairs Hallway	507	521	
Upstairs Closet	515	686	
Downstairs Bathroom	541	513	
Upstairs Bathroom	512	522	

Final confirmation readings were collected on December 24, 2014; BZ ranged from 482 ng/m3 to 657 ng/m3 throughout the house, Floor readings ranged from 241 ng/m3 to 402 ng/m3 throughout the house.

START Additional Mercury Vapor Screening Results
Residence on December 24, 2014
N Artesian Ave., Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temperature (°F)
Initial Entry/Foyer	--	--	72
Living Room	1,700	10,000*	
Dining Room	1,900	8,400	
1 st Bedroom	1,200	910	
Kitchen	2,100	8,900	
Bathroom	2,300	2,600	
2 nd Bedroom	2,200	2,300	

* Living Room readings were collected from beneath the removed flooring.

Notes:

- = No readings taken

°F = Degrees Fahrenheit

BZ = Breathing Zone

ng/m3 = nanograms per cubic meter

Readings observed with a Lumex 915M Mercury Analyzer

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On December 12, 2014 USEPA and START responded to a City of Chicago Department of Public Health (CDPH) request for assistance in response to a mercury spill at Clemente High School. The individual potentially responsible for the spill also showed and handled mercury at San Lucas Church (W North Street) and a residence on N Mozart St. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

On December 19, 2014 USEPA and START responded to another CDPH request for assistance involving the origin of the mercury for the Clemente High School mercury spill. This request included an additional two residences (N Artesian Ave and S Central Park Ave) where mercury was handled. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

A total of three residence and one Church are included in the Mozart St mercury spill.

2.1.2 Response Actions to Date

From December 12 through 15, 2014, USEPA and START completed mercury spill investigative activities at San Lucas Church on W North Street. San Lucas Church staff heated and vented the first and basement floors of the building in an attempt to remove mercury vapors. In the basement, San Lucas Church staff applied sulfur to the tables and floors to remove mercury vapors. The final mercury screening took place on December 15, 2014. Mercury vapors were below the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

From December 12 through 19, 2014, USEPA, START, and ERRS completed removal action activities at the N Mozart Street residence. ERRS mobilized a mercury vacuum to remove debris in areas with high mercury concentrations. Areas with persistently high mercury concentrations were cleaned with a mercury removal agent (HgX). Headspace readings were collected of clothes in affected areas and disposed of per the USEPA/ATSDR action levels. To remove residual mercury vapors the residence was heated then vented. The final mercury screening took place on December 19, 2014. Mercury concentrations were reduced to below USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person prior to USEPA, START, and ERRS demobilization.

On December 22, 2014, USEPA and START screened personal belongings of residents at N Artesian prior

to them relocating for removal activities. The personal belongings of residents at S Central Park were screened on December 23, 2014, prior to them relocating.

From December 23 through 24, 2014, USEPA, START, and ERRS performed removal action activities at the N Artesian Ave residence. Headspace readings were collected from all items removed from the property. ERRS mobilized a mercury vacuum in an attempt to remove freestanding mercury contamination in the kitchen, bathroom, and living room. An application of HgX was applied to areas with elevated mercury vapor concentrations. Following the HgX application the house was heated to over 100 degrees F and then vented. This heating venting cycle continued for the majority of the day. Mercury concentrations continued to increase after the room equilibrated to normal living conditions indicating mercury beads were present.

Additional screening revealed mercury beads and micro mercury beads in the living room, dining room, and kitchen at the N Artesian Ave residence (See Images Section). Molding/trim, floor boards, and linoleum tile were removed where elevated mercury concentrations exist. Headspace readings were collected of items removed from the residence and disposed of per the USEPA/ATSDR action levels. The residents were notified of trip hazards in their property via proper signage.

From December 23 through 24, 2014, USEPA, START, and ERRS completed removal action activities at the South Central Park Ave. residence. Headspace readings were collected from all items removed from the property. ERRS mobilized a mercury vacuum to remove freestanding mercury contaminated debris in Bedroom #3. After vacuuming operations were completed in Bedroom #3 the room was heated then vented to remove residual mercury vapors. Headspace readings were collected of items removed from Bedroom #3 and disposed of per the USEPA/ATSDR action levels. The final mercury screening took place on December 24, 2014. Mercury concentrations were reduced to below USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person prior to USEPA, START, and ERRS demobilization. The residents returned to their residence on December 24, 2014 to resume normal occupancy. Prior to occupancy, a new air filter was installed on the furnace.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Multiple - Ongoing

2.1.4 Progress Metrics

Location	Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
W North	None					
N Mozart	Household item/debris/PPE	Solid	(2) 55-gal drum*			Landfill
N Artesian	Household item/debris/PPE	Solid	(25) polyurethane bags			Landfill
S Central Park	Household item/debris/PPE	Solid	(27) polyurethane bags			Landfill

* = The quantity of drums at N Mozart was erroneously recorded as (6) on Polrep #2. The new number (2) reflects the actual quantity as described.

2.2 Planning Section

2.2.1 Anticipated Activities

On December 26, 2014, USEPA, START, and ERRS will continue removal activities at the N Artesian Residence.

2.2.1.1 Planned Response Activities

See Section 2.2.1

2.2.1.2 Next Steps

Remove remaining mercury in the house

Remediate mercury vapors to a level deemed safe by USEPA and ATSDR

Repair flooring removed to remediate mercury beads and micro mercury beads

2.2.2 Issues

None at this time.

2.3 Logistics Section

Logistics will be provided by ERRS.

2.4 Finance Section

2.4.1 Narrative

Finance ceilings and costs for this site have been established as shown below.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$50,000.00	\$11,846.70	\$38,153.30	76.31%
TAT/START	\$30,000.00	\$13,439.00	\$16,561.00	55.20%
Intramural Costs				
Total Site Costs	\$80,000.00	\$25,285.70	\$54,714.30	68.39%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

EPA OSC is the on-site Safety Officer for the response. A health and safety plan was generated and signed by appropriate site personnel. Health and Safety briefings were conducted daily during site operations.

2.5.2 Liaison Officer

NA

2.5.3 Information Officer

NA

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Chicago Fire Department
Agency for Toxic Substance and Disease Control
Chicago Department of Public Health
Chicago School Representatives

4. Personnel On Site

Organization	Position	# Personnel
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EPA	OSC	1
Tetra Tech	START	2
ER	ERRS	5

5. Definition of Terms

CHD = Chicago Health Department

ng/m3 = nanogram per meters cubed

START = Superfund Assessment and Response Team

ATSDR = Agency for Toxic Substances and Disease Registry

ERRS= Emergency and Rapid Response Services

6. Additional sources of information

6.1 Internet location of additional information/report

Please find additional information on the UEPA OSC Website:

http://www.epaosc.org/site/site_profile.aspx?site_id=9672

6.2 Reporting Schedule

The OSC will issue an additional Polrep on a date to be determined.

7. Situational Reference Materials

Please refer to the Joint EPA / ATSDR Chemical Specific Health Consultation for Action Levels for Elemental Mercury Spills:

http://www.atsdr.cdc.gov/emergency_response/Action_Levels_for_Elemental_Mercury_Spills_2012.pdf